Launching of Atomic Submarine "Sea Wolf." Courtesy Electric Boat Division of General Dynamics Corporation.

Monthly Review

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ATOMIC ENERGY AND NEW ENGLAND

Part I — Offspring of Science and National Defense

New England has much to offer the developing nucleonics industry and that industry has much to offer New England, according to the recent report of the New England Governors' Committee on Atomic Energy. The region has unsurpassed scientific and technical schools, highly skilled labor, and well-developed electronics and electrical machinery industries. In addition, it has many firms with specialized skills in machining and metallurgy.

Technological know-how is probably the scarcest element in the atomic energy field. Many New England schools and industries are obtaining a working knowledge of nucleonics through Atomic Energy Commission and Defense Department contracts. If the region's universities and industries can continue to keep abreast of the latest developments in the many phases of nuclear technology, New England's infant nucleonics industry can be assured of a strong competitive position in future years.

New England has many advantages in atomic energy "unmatched by any other region of the country.... Our opportunities to employ all of these resources in the atomic energy field for the benefit of nation and region are great, and should be matched by aggressive action." By these words a Committee appointed by the New England Governors reaffirmed the region's outlook.[1] By its report the Committee advances our understanding of how atomic energy will affect this region.

Recognizing the need for competent guidance, the New England Governors Conference in 1954 appointed a committee of scientists and industrial leaders to consider New England's interests in developments in the atomic energy field. The Committee — the New England Committee on Atomic Energy — was specifically charged with recommending courses of action to advance the development of this new technology in the region.

This article is based on the Committee's recent report[2], but it also includes material which has been announced since that document went to press. This discussion considers the extent of federal expenditures for nuclear research, development, and construction in New England and the importance of those programs for New England's future competitive strength in nucleonics. A later issue of the *Monthly Review* will discuss the more promising civilian applications of nuclear technology.

Since the beginning of the atomic energy program in the early 40's, industrial activity in nuclear technology has been supported largely by federal expenditures for war weapons and for research and development. However, the Federal Government has located none of its major atomic energy installations in New England.

Among other reasons, this region was not chosen because: first, remote locations were preferred for safety and strategic reasons; second, atomic energy plants producing fissionable materials consume large amounts of energy. Therefore power costs were an important consideration and the Atomic Energy Commission chose to locate many of its plants near sources of low-cost energy.

Despite the lack of a major atomic energy installation, New England has played an important role in developing atomic energy. From the beginning, the Federal Government has relied upon New England's universities to supply trained manpower to direct many phases of the atomic energy program. Moreover, New England's

[1] See *Monthly Review*, October 1952, "Industrial Opportunities in New England — Atomic Energy."

[2] A copy of the complete report may be obtained for $1.00 from the New England Committee on Atomic Energy, 50 Memorial Drive, Cambridge, Mass.

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electronics, metal, machinery, and instrument manufacturers have been called upon to design, construct, and service equipment included in installations located in all parts of the country.

Because there is no clearly defined atomic energy "industry," it is difficult to devise a yardstick for measuring the importance of atomic energy to New England. It does seem significant, however, that as of November 1, 1954, the Atomic Energy Commission had current New England contracts valued at more than 50 million dollars. More than half of this sum was allotted to research and development work which has given the region's schools, industries, and independent laboratories valuable insight as to possible future nuclear developments.

The fact that New England industries have had some success in competing for government contracts in the past does not prove that the region will be in a strong competitive position in the future. But the New England Committee on Atomic Energy points out that New England has:

1. Research facilities which are unsurpassed in any region in the country.

2. A labor force which has been trained in the expanding electronics and electrical machinery industries, and highly skilled personnel working for many firms specializing in machining and metallurgy.

3. A complex of transportation and port facilities which enable it to pioneer in the field of nuclear propulsion on the high seas.

4. No important transportation cost disadvantage, because most nuclear products have a high value relative to their weight.

5. Many firms which are gaining technological know-how in designing and constructing nuclear parts and equipment for the Federal Government.

This last factor — the existence of many firms producing parts and equipment for the A. E. C. and the Defense Department — is probably the most important single factor affecting New England's future competitive position in the atomic energy industry. In this new field, technological know-how is a very scarce element. If New England's industries can continue to develop a working knowledge of all the latest nuclear developments, the region will be able to compete effectively in the civilian atomic energy race.

Nuclear Projects in New England

Today, New England industries are producing an amazing array of products used in nuclear installations and equipment throughout the country. The *Buyers Guide* of *Nucleonics Magazine* lists 194 firms in New England which manufacture products for the atomic energy industry. For example, Nuclear Metals, Inc. of Cambridge, Massachusetts, is one of the principal A. E. C. laboratories for nuclear metallurgical studies, and Metals and Controls Corporation of Attleboro is active in the fuel element field.

New England also has a great diversity of types of firms working in the new atomic energy industry. They include not only the large and well-known electrical and electronics companies, but also a host of research laboratories and small instrument manufacturers.

About $4 million, or 17 per cent, of the total nuclear instrument production in the United States is manufactured in New England. This is about two times the region's share on a manufacturing activity basis.

It is also important to New England that a number of firms have succeeded in obtaining prime contracts and are building major items of military equipment for the Federal Government. For example, the Electric Boat division of General Dynamics Corporation in Groton, Connecticut, already has launched two atomic submarines and is now constructing a third. The contracts for the first two submarines (the *Nautilus* and the *Sea Wolf*) exclusive of their reactors totaled $61,700,000. Their construction served to raise the level of shipyard employment by 3,500.

New England is also pioneering the application of nuclear power to surface vessels. The Fore River Yard of the Bethlehem Steel Company in Quincy, Massachusetts, received a contract in October 1954 to undertake design studies of large nuclear-powered ships. The New England Committee on Atomic Energy suggests that this project may develop into a "very logical program of eventually converting major naval units to atomic power."

In another field, the Pratt and Whitney Division of United Aircraft Corporation recently signed a contract with the Air Force and the A. E. C. to conduct research on an atomic-powered aircraft engine. It is understood that the recently announced $5.7 million expansion of the firm's research facility in South Windsor, Connecticut, is connected with the project.

Nuclear energy has many applications for military use. For example, the Committee points to plans to use nuclear energy generated by "packaged power reactors." These reactors are relatively small (generating up to 10,000 KW) and they produce power which is so expensive that there is little likelihood of modifying them to produce power at commercial rates for ordinary civilian use. The Committee emphasizes, however, that "the potentiality of using small nuclear power plants in remote locations abroad, where transportation of fuel is a significant problem, creates a very interesting market possibility.... It is a type of product that requires a good combination of technical and manufacturing skills, well within the range of New England's capabilities."

The increased demand for military reactors of all sorts may necessitate the creation of a whole complex of related electronic and metal fabricating industries. For example, New England probably will need a central reprocessing plant for fuel elements used in military and many civilian reactors. In order to achieve the smallest possible power plant, military reactors use an enriched fuel. This fuel is contained in a metal element which gradually becomes contaminated as the uranium fissions. Periodically, new fuel elements must be placed in the reactors. The fuel residual must be purified and the contaminants removed from the used metal elements. The whole process requires extreme care in order to minimize the losses of the valuable fuel and to protect personnel from radiation.

The New England Committee on Atomic Energy has suggested that New England industry should establish a centralized fuel element reprocessing facility. The Committee report also states that such an installation would "require docking facilities sufficient for handling fuel

element removal and replacement at various seaports and subsequent transportation to the central reprocessing plant. This docking facility will presumably include such items as special cranes, shielded storage area, transportation facilities for radioactive and fresh fuel elements, and specialized maintenance equipment for handling minor maintenance on "hot" reactor equipment. A decisive factor in the design of both docking and reprocessing facilities for marine reactors will be the extremely high inventory charges associated with the very valuable, highly enriched fuel material.

"New England has been a forerunner in the maritime industry for many years and has built up a strong complex of seaports, docking facilities, and shipyards. It seems feasible that existing harborside facilities could be modified to handle the docking requirement of nuclear-powered vessels. However, in the field of nuclear-powered marine vessels, the central reprocessing facilities, as an essential link in the chain to service the atomic age vessels, is presently missing. The central reprocessing station is a completely new type of facility which will be required to service adequately the nuclear fleets of the future."

Altogether, it would appear that the creation of this facility would enable New England to pioneer in the field of nuclear propulsion on the high seas.

The New England Committee on Atomic Energy pointed out that no research reactors exist in the New England area. These reactors are relatively small and low powered but they can be used for a great variety of experiments for both civilian and military purposes. Although two such reactors are tentatively scheduled for construction (one at the Massachusetts Institute of Technology, the other at the Watertown Arsenal of the Federal Government), other regions have led New England in constructing these reactors.

The Committee on Atomic Energy states that New England badly needs a materials testing reactor. This is a very expensive item (estimates run up to $15 million), but it is an almost indispensable tool for experiments in developing metals to withstand the nuclear bombardment from uranium fission within a reactor. Developments in this field have also been promising. Arthur D. Little, Inc. of Cambridge, Massachusetts, recently announced that it is actively working on a program to construct such a reactor.

The New England Committee on Atomic Energy also suggests that New England should establish an atomic energy library accessible to scientists and businessmen interested in developing new techniques and new products. No such library exists in New England and its creation would involve many obstacles. Naturally the use of the library would need to be restricted to those cleared by the A. E. C. to use confidential information. Furthermore, the A. E. C. would need to modify drastically some of its present security requirements so as to permit various types of experts to exchange ideas on different aspects of nuclear technology. An atomic energy library would also be expensive and it would probably require joint support by many of the universities, industries, and state governments in New England and by the Federal Government.

Despite all these difficulties, it appears that New England should attempt to create such a library. This region has an opportunity to exercise leadership in research and development and a library would be a valuable aid to all industries and institutions interested in atomic energy development.

The atomic energy industry as it exists today is an open field. No one individual, no one company, or no group of companies has the personnel or technological knowledge to predict what developments will come about. Only one thing is certain in this atomic age — technological change is inevitable. The region which has the most experience in nuclear technology, which has a trained labor force, and which has the most knowledgeable scientists to call upon will be most capable of expanding quickly when new research findings reveal new industrial opportunities. A subsequent issue of the *Monthly Review* will discuss some of the most promising civilian uses of atomic energy and their potential impact on the economy of New England.

RECOMMENDATIONS by the New England Governors' Atomic Energy Committee

I. To the Governments of the New England States

Appoint an atomic energy co-ordinator.

Continue to co-ordinate promotional and regulatory efforts through regional action.

Promote the growth of nuclear enterprise through the use of their many resources, agencies, regulatory authorities, and taxing powers.

Enact a statute (along the lines of a model law prepared by the Committee) which pinpoints responsibility for all atomic energy work in each state government. [Ed. Note: Connecticut, Maine, Rhode Island, and New Hampshire have already passed such legislation.]

II. To the Elected Representatives of New England in the Congress and to the United States Atomic Energy Commission

Translate the Atomic Energy Act of 1954 into practical measures which will bring about early nuclear power development in New England.

Establish a major A. E. C. research or production installation in New England.

Establish an A. E. C administrative office in New England.

Support efforts to declassify and disseminate technical atomic energy information.

III. To New England Educational Institutions

Establish at least four low-powered nuclear research reactors on New England campuses. [Ed. Note: MIT has recently applied to the A. E. C. for a license to construct and operate one such reactor.]

Consider curricula changes to provide greater emphasis on atomic energy developments.

Establish a library of classified technical atomic energy information at one or more New England colleges with government and business support.

IV. To New England Industrial and Business Leaders

Construct a high-powered, high-flux materials testing reactor. [Ed. Note: Arthur D. Little, Inc. of Cambridge is actively working on plans for such an installation.]

Work to provide adequate casualty and compensation insurance coverage in the atomic energy field.

Investigate all possible uses for radioactive isotopes and other radiation sources.

Make more active use of the facilities of the Brookhaven National Laboratory of the Atomic Energy Commission.

Monthly Review
FEDERAL RESERVE BANK OF BOSTON

Earnings and Expenses—N. E. Member Banks

THE FIRST HALF of 1955 was a period of further growth for New England banks. Earning assets averaged larger than in both half-year periods in 1954 and deposits declined less than the usual seasonal amount. Lending activities were expanded at many banks and customers were offered an increased variety of services. Competition among banks was heightened.

Gross operating earnings continued the upward trend of recent years. With little change in total expenses, net current earnings were higher by a good margin than those for the half-year periods in 1954, and most banks throughout the region reported increases. Net profits at Boston banks amounted to $9.3 million — three per cent above those in both halves last year. Decreases in profits, however, were experienced by the country banks as a group. Profits amounted to $12.2 million — down about 10 per cent. The decline in profits this year at the country banks largely resulted from the shift from profits to losses on security sales.

Net profits on an annual basis represented a return on capital for the Boston banks averaging about 7.0 per cent compared with 6.8 per cent for 1954. The rate of return was only 6.0 per cent at country banks — somewhat less than last year.

Total operating earnings advanced to $128 million — about nine per cent above those in the first half and some two per cent higher than in the last half of 1954. A constant-to-improving interest rate applied to the larger average volume of loans and investments was a major factor increasing operating earnings. Many banks increased the proportions of consumer and mortgage loans which carry higher rates. Income from other sources also contributed, particularly in Boston where income from trust services rose 13 per cent.

Current operating expenses amounted to $81 million — 11 per cent higher than in the first half of 1954 but unchanged from the last half of the year. Although outlays for salaries and wages were less than in the second half of 1954, "other current operating expenses" moved moderately higher. Reflecting the stability in total expenses, net current earnings advanced five per cent above those reported in either period last year.

Net charges on noncurrent transactions were larger than in both periods in 1954 and were relatively heavier at most banks outside Boston than at those in the city. Charges against earnings to increase further tax-free reserves for loan losses were again substantial. Losses on securities sold exceeded recoveries and profits, reflecting the lower levels of security prices which prevailed in the first half of 1955. Last year security profits exceeded losses and charge-offs at both groups of banks.

Profits before income taxes were somewhat lower than those reported in the first half of 1954, but were moderately above profits for the second half of the year.

Cash dividend payments were ten per cent larger than such payments in the first half of 1954. As usual, however, they were less than payments in the second half year which frequently include extras. As annual rates of return on total capital accounts at the beginning of the year, they amounted to 3.5 per cent. About $10.3 million — almost half of the profits — was retained and added to capital accounts.

Changes in Principal Earning Assets

The broad recovery in business activity which developed during the first half of 1955 was reflected in an increased demand for a variety of business loans at district banks. The banks also financed an expanding volume of consumer instalment purchases directly through loans and indirectly through lending to finance companies. The high rate of residential and commercial building activity required substantial amounts of credit at all levels — for construction and development, for purchases of completed properties, and for warehousing mortgages for some nonbank investors. Loans for purchasing or carrying securities showed little change. Total loans at district banks at the end of June were almost seven per cent above outstandings at the close of 1954 and ten per cent above levels reached a year ago.

Commercial Loans — Developments in business lending during the half year followed closely the national pattern. The decline in business loans after the end of the year was smaller than usual and the upturn which began in early February continued through June. The higher loan volume reflected resumption of expansion of inventories in some industries and continued development and growth for others. Tax borrowing was also an influence. Large net increases in borrowings were made by textile, sales finance, and construction companies. Food and tobacco processors and commodity dealers made net repayments. In other industry groups small increases were reported or new loans about offset repayments.

Real Estate Loans — Mortgage holdings of the region's banks continued to increase and reached a new

MEMBER BANK EARNINGS, EXPENSES, AND PROFITS
(Amounts in Thousands of Dollars)

	Boston		Other First District Banks	
	First Half 1955	% Change from Second Half 1954	First Half 1955	% Change from Second Half 1954
Earnings	**$43,567**	**+ 1.8%**	**$84,548**	**+ 2.4%**
Interest received on bonds and stocks	8,618	+ 1.2	19,553	− 1.9
Interest received on discounts and loans	23,801	+ .4	48,561	+ 4.5
Service charges on deposit accounts	1,425	− 1.5	6,423	+ 4.7
Trust department	5,636	+13.4	5,118	− 8.1
All other income	4,087	− 1.2	4,893	+ 8.4
Expenses	**24,875**	*	**56,356**	− .1
Salaries and wages	13,752	− 4.2	26,700	− 5.4
Interest paid on time deposits	823	− 5.4	7,896	+ 2.8
All other expenses	10,300	+ 6.8	21,760	+ 6.0
Net current earnings	**18,692**	**+ 4.3**	**28,192**	**+ 7.8**
Noncurrent transactions	− 1,627	+ 4.0	− 4,164	+ 5.7
Profits before income taxes	17,065	+ 4.4	24,028	+ 8.1
Taxes on income	7,746	+ 6.2	11,781	+36.7
Net profits	**9,319**	**+ 2.9**	**12,247**	**−10.0**
Cash dividends on common stock	5,250	−18.0	6,619	− 8.6

*Less than .05%.

high at the half year. Additions of real estate loans accounted for 14 per cent of the increase in total loans since the end of 1954. The volume of VA loans was 36 per cent larger than year-ago volume and substantial increases were reported in FHA loans. Over-all mortgage rates tended to be a little firmer.

Consumer Loans — The advance in purchases of durable goods accounted for a large proportion of the total increase in consumer spending from early 1954 to early 1955. Sales volume at the advanced level was supported in substantial part by credit, and terms were generally easier. The major part of the increase in outstanding credit was accounted for by purchases of automobiles. The increase in consumer loans accounted for almost 25 per cent of the rise in total loans during the half year.

Investments — Toward the end of the first quarter banks began to reduce their holdings of U. S. securities, especially the short maturities, largely to expand their loans. In some instances banks took advantage of the moderately lower bond prices to readjust their portfolios to improve yield, also effecting tax savings on losses realized. Although total investments were reduced about eight per cent during the first half of 1955, average holdings were not significantly different from those in both half-year periods in 1954. The average maturities were slightly longer with a consequent more favorable yield. Boston banks continued to increase their holdings of other securities substantially.

MEMBER BANK STATEMENT OF CONDITIONS
(Amounts in Thousands of Dollars)

	Boston		Other First District Banks	
	June 30 1955	% Change from Dec. 31 1954	June 30 1955	% Change from Dec. 31 1954
Total Assets	$2,718,374	− 5.2	$4,875,985	− 1.0
Total reserves, cash and balances	**568,651**	**−14.4**	**900,252**	**− 7.0**
Total investments	**847,826**	**−11.4**	**1,931,886**	**− 6.2**
U. S. securities	638,329	−21.7	1,466,086	−10.9
Other securities	209,497	+47.8	465,800	+12.4
Total loans and discounts	**1,244,422**	**+ 5.3**	**1,963,476**	**+ 7.9**
Commercial and industrial loans	767,090	− .4	741,137	+ 9.4
Real estate loans	176,048	+ 8.5	557,692	+ 3.1
Other loans to individuals	238,384	+23.4	577,677	+ 9.3
All other loans	91,398	+ 9.5	116,922	+15.8
Reserve for bad debt losses, etc.	28,498	+ 3.6	29,952	+ 5.1
All other assets	**57,475**	**− 9.6**	**80,371**	**+ 4.1**
Total Liabilities and Capital Accounts	2,718,374	− 5.2	4,875,985	− 1.0
Liabilities	**2,453,087**	**− 6.0**	**4,474,390**	**− 1.3**
Demand deposits	2,183,604	− 5.8	3,230,722	− 2.3
Time deposits	207,817	− 4.4	1,183,469	+ 1.1
All other liabilities	61,666	−16.6	60,199	+ 7.4
Capital accounts	**265,287**	**+ 2.9**	**401,595**	**+ 2.4**

Recent Developments in Credit Policy

The large credit demands, a higher rate of turnover of deposits, and a lower rate of money savings which accompanied the broadening expansion of economic activity this year called for a continuation of the move towards a more restrictive credit policy in contrast to the policy of credit ease which characterized most of 1954. Over the half year the money and capital markets continued to adjust to the influence of a generally sustained lower level of free reserves. In January free reserves dropped to an average level of $365 million and in succeeding months approached $100 million — falling below zero in July. At this level they were some $500-$600 million below the average which prevailed during the preceding six months. Member bank borrowings at Federal Reserve banks averaged between $300-$500 million during much of the period. Open market operations by the System account tended to offset factors which could contribute to ease and a net reduction in holdings absorbed reserves from the market.

Other steps were also taken by the System to slow the expansion of credit. Discount rates of the Reserve banks were raised from 1½ to 1¾ per cent during the latter part of April in order to align them with the higher market rates. And discount rates were raised again as market rates rose in early summer. During the first week in August most Reserve banks moved their discount rates to two per cent and at the Federal Reserve Bank of Cleveland to 2¼ per cent. In early January margin requirements were raised from 50 to 60 per cent and in April to 70 per cent to help retard any excessive use of credit in trading in securities. Following the increase in margin requirements to 70 per cent, the rate of increase of credit used was reduced.

In late July, action was taken by the housing authorities to slow a further rise in the volume of real estate credit. Moderate increases were made in down payments and maturities were shortened on both FHA and VA mortgages.

Against generally tighter market conditions as they developed during the year, rates on open market commercial paper were raised several times in the first four months. By May rates on prime 4-6 months paper averaged 2 per cent — an increase of about ⅞ per cent above levels prevailing in the last half of 1954. Further advances in July and early August reached a level of 2¼-2⅜ per cent. Rates on directly placed finance company paper were also adjusted upward as were rates on bankers acceptances. Accompanying the August increase in Reserve Bank discount rates, the large commercial banks moved the rate on prime business loans from 3 to 3¼ per cent.

Yields on 90-day Treasury bills rose and during much of the period bills were quoted close to 1.5 per cent in contrast to yields near 1.0 per cent during the latter part of 1954. Bills' rates during the first five months failed to fully reflect money market conditions because of the exceptionally strong nonbank demand for a relatively small supply. During June and July the rate advanced further and approached 1.75. In part the increase reflected larger supplies of Treasury bills but also further tightening of the market. With the new level of discount rates, bills traded near 1.90 per cent.

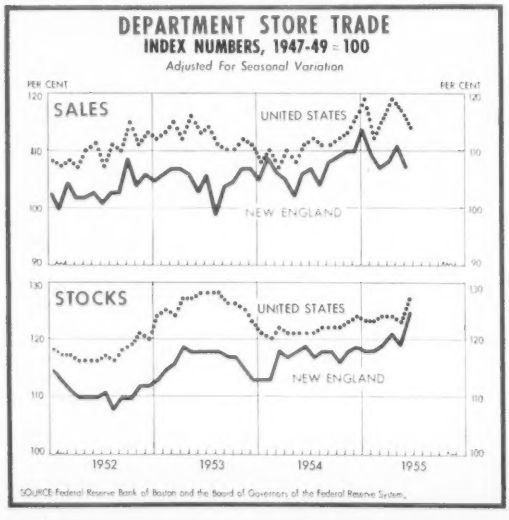
Rates on intermediate and long-term U. S. securities showed little net change after early March until July when long-term bonds advanced to about a 2.95 per cent level. Further advances occurred in July and early August. The rates on these securities and other high grade bonds during all of the half year were higher than for any recent period except 1953. Trends in interest rates during the half year were influenced in part by investor expectations that credit demands — both public and private — would continue to press heavily on a restricted supply of funds in the market during the summer and fall months.

Department Store Sales Reflect the Boom

DEPARTMENT STORE EXECUTIVES well know that their sales reflect variations in general business activity. During 1955 those variations have been generally on the upward side, with the major economic indicators reaching new peaks. The gross national product reached a new record rate in the second quarter, four per cent above the earlier peak established in the second quarter of 1953. Total employment in June was at a record high for any month and unemployment amounted to only 3.8 per cent of the labor force, the lowest level since late 1953. This record level activity brought personal income to record levels. Although down slightly from May, June's total was still five per cent higher than a year ago. Consumption expenditures reached an all-time high in the second quarter, more than six per cent above year-ago levels.

Department stores have benefited from these trends, although their sales have not shown as large year-to-year gains as have those of all retail stores. Sales of the nation's department stores during the first half of 1955 were six per cent above those of a year ago, compared with a gain of eight per cent in total retail sales. If sales of the booming automotive group are removed from the total of retail sales, the remaining groups had a gain of only five per cent. Department store sales rose to the highest first half level in history, nearly two per cent above the previous record set in 1953.

New England's department stores also achieved a new sales record in the first half of this year, but the gain of four per cent from a year earlier was not as great as the national one. District sales nonetheless were three per cent above the previous record made in 1953, contrasting with a gain of only two per cent nationally. This seeming paradox emphasizes the fact that the region's department stores did not suffer as great a decline during early 1954 as did the average department store in the nation. From 1950 to 1953, the annual sales index of department stores in the nation recorded a gain three and one-half times as great as the New England index. During 1954, however, national sales dropped slightly while New England sales rose as much as they did from 1950 to 1953.



Since World War II New England department store sales have shown more stability than in the nation, but they have grown at a slower rate. This reflects the greater stability but slower growth rates of the region's income and employment.

In not one of the first seven months of 1955 did New England's department stores fail to match or better the sales volumes of the similar year-ago months. Largest gains occurred in January (seven per cent) and May (eight per cent). Among the highlights of 1955 sales history were the high volume of pre-Easter sales and the record sales volumes set for the weeks before Mother's Day and Father's Day.

Somewhat disappointing was the response to post-Easter clearance sales and the low level of sales during the first and last weeks of June. Post-Easter sales may have been less attractive than usual because of good pre-Easter sales. Cooler weather than a year ago during early June may have deterred purchases of summer items, particularly if consumers expected a repetition of last summer's generally cool weather. The last week of June temperatures were high and possibly the selection of merchandise offered was beginning to show the effects of lack of deliveries because of the trucking strike in southern New England. June sales were at the lowest level, after seasonal adjustment, since August of last year. July, however, brought fairly large year-to-year gains, indicating a return to a higher level of sales.

All but one New England city for which figures are available succeeded in equaling or bettering last year's first half sales volume. The exception was New Bedford, where employment has been below year-ago levels. Sales in downtown Boston stores broke even with those of a year ago. Stores in the suburban areas of Boston, continuing to outdo those downtown, recorded gains averaging nine per cent for the six months. Outside the Boston metropolitan area, Lowell-Lawrence stores showed the largest gains, averaging 11 per cent, partly reflecting the improvement in manufacturing employment there in comparison with that of early 1954.

Gains in sales from year-ago levels during the first six months were not uniform among the various departments. Some departments were not able to equal the sales volumes of early 1954. Main store sales compared more favorably with year-earlier totals than did those of the basement store. All the major main store departments except "Piece Goods and Household Textiles" recorded year-to-year gains during the period. Departments selling items on which excise taxes were reduced in April 1954 recorded sufficiently large gains during the first quarter of 1955 to make their six-months total show better-than-average gains from the similar period a year ago. These departments handle such items as silverware and jewelry, furs, and luggage. Other departments recording large gains sell boys' and girls' clothing, blouses, skirts, and sportswear, aprons, house-

dresses, and uniforms, books and magazines, furniture, major household appliances, housewares, and sporting goods and cameras. The generally rising incomes in the district as well as the increasing population of children are reflected in these sales gains. Departments whose volumes have fallen most behind those of the first half of 1954 are the ones selling notions, handkerchiefs, piece goods except wool, women's and misses' coats and suits, the gift shop, and radios, phonographs, and television.

Credit Important Factor in Sales Gains

Consumer purchases on the instalment buying plan paced the sales gains of New England department stores in the first half of 1955. Each month of this year, instalment sales have shown larger year-to-year gains than have cash or charge sales. The relatively better performance of instalment sales may be attributed partly to the increased sales of "big-ticket" items in the homefurnishing departments and partly to an increased use of revolving credit accounts in the purchase of items in other departments.

Accounts receivable at the end of June were six per cent above those a year ago. Instalment receivables were 14 per cent larger while charge account receivables were at last year's level. Consumers apparently have been able to handle this expanded volume of commitments since collections as a percentage of total accounts outstanding remain close to the level of a year ago. Stores do indicate, however, that a little more effort is required to keep collection ratios up than was the case a year ago. In spite of this experience, the stores feel the credit situation is under control.

In the first two months of 1955, inventories of the region's department stores were nearly five per cent above year-ago levels and were beginning to look somewhat heavy. The high sales level from the beginning of the year until June somewhat dispelled this feeling, however, and inventories were considered to be quite well in line with expected sales volumes. In fact, the good sales record prompted retailers to increase substantially the volume of merchandise on order from the low level characteristic of the more cautious atmosphere prevalent a year ago. The volume of orders outstanding at the end of May was 19 per cent above a year ago and at the end of June was eight per cent ahead. It is possible the latter figure is higher than it might otherwise be due to the southern New England trucking strike.

As a result of the heavy ordering and the lower-than-expected sales level in June, stocks at the end of that month were five per cent higher than a year ago. However the ratio of stocks at the end of June to sales for the month was virtually the same as June ratios for the last three years.

At the end of the first six months of 1955, New England's department stores found themselves in a relatively favorable position for the important fall and holiday selling seasons. Except for June, sales have generally been running at encouragingly high levels and the outstanding debts of consumers do not appear to be so high as to discourage further commitments. Inventories on hand and on order do not appear high in relation to current sales levels, yet appear adequate to insure a wide selection of merchandise for the consumer.

Department Store Indexes Revised

Periodic reviews of the factors used to adjust retail sales and inventory for seasonal variation are necessitated by changes in consumer buying habits and in merchandising policies of the stores. Such a review of the seasonal adjustment factors for indexes of sales and stocks of New England department stores has recently been completed.

The analysis of seasonal sales patterns for recent years indicated that department store sales in the months of September, October, and December were somewhat larger in proportion to annual sales than previously. Sales in February, March, and April were smaller than in the previous pattern. This increased relative importance of sales in the last half of the year is a repetition of the findings at the time of the last review of seasonality in sales two years ago. An accompanying chart, based on the revised factors, shows the current percentage of total annual sales expected in each month by New England department stores.

More months have been affected by changes in the seasonal pattern of department store stocks than was the case with sales. It was found that the relative level of stocks held by department stores was slightly higher in January, May, and August and slightly lower in February, June, July, and December than indicated by the old adjustment factors. Some of the changes noted are associated with changes in the pattern of sales.

Similar reviews of seasonal adjustment factors have been made by the other Federal Reserve Banks in accordance with Federal Reserve System policy. Revised indexes for the districts and the nation are shown in the *Federal Reserve Bulletin* for August 1955. Tables showing New England index numbers and seasonal factors for the entire period covered by the indexes (1919 to date) are available upon request from the Research and Statistics Department of the Federal Reserve Bank of Boston.

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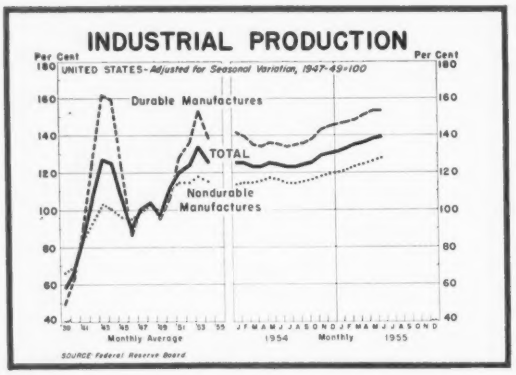
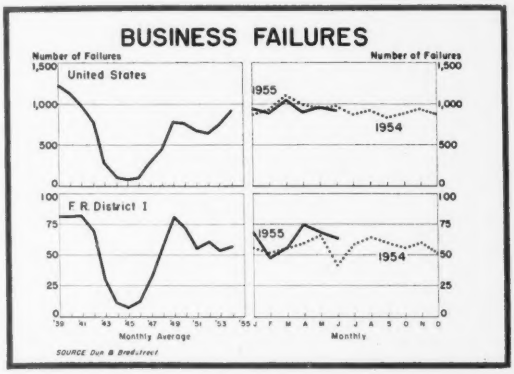
Business Conditions

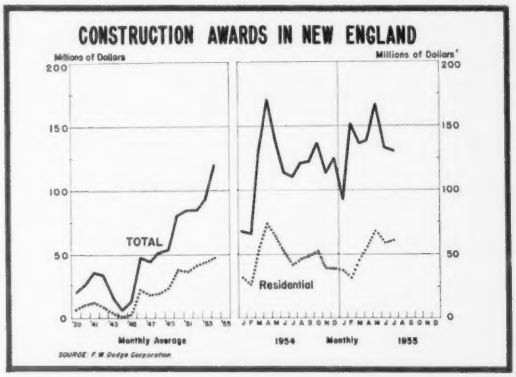


Production continued to break all records as the index reached 140 in July on an adjusted basis. Durables rose two points to regain the peak level established in the summer of 1953, while nondurables maintained their June high.

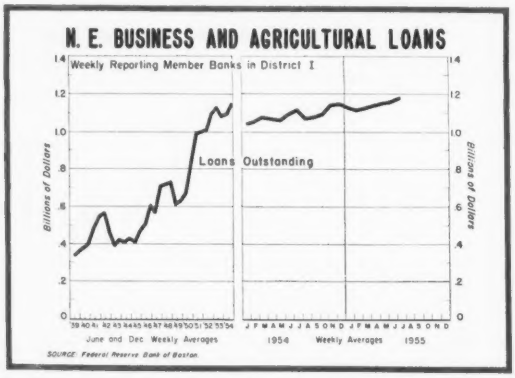


Failures in District I dropped in June for the second month but were still above the number for June 1954. During the first half of 1955 they averaged 16 per cent above those in the same period of 1954, although nationally failures were down three per cent.

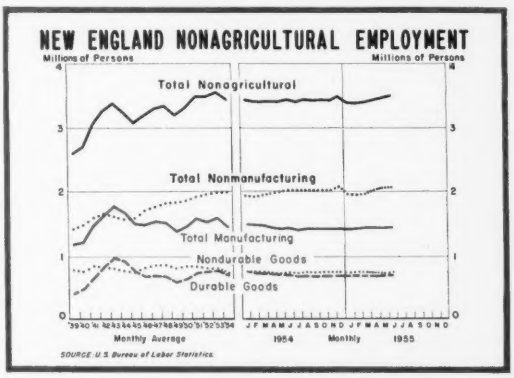
The consumer price index rose in June for the first time since November, with small increases in several categories. Wholesale prices reached a point slightly above the index for June 1954. The spot-commodity index rose in July to the highest point since February.



New England construction awards dropped in July but were 18 per cent above July 1954. The value of awards for the first seven months of 1955 was 18 per cent above that of last year. Residential awards picked up in July while nonresidential awards fell.



The volume of commercial loans in District I has risen steadily since February to an all-time high in July of $1,174.8 million. This peak represents an expansion of 4.5 per cent since the beginning of the year and is five per cent above the level of July 1954.



Nonagricultural employment in New England rose in June to the highest peak since December 1953. Greatest gains occurred in the construction and service industries. Manufacturing employment also rose, with increases in the leather and lumber industries.